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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,247	07/26/2002	Astrid Kleen	H 3609 PCT/US	9303
423	7590	05/31/2005	EXAMINER	
HENKEL CORPORATION THE TRIAD, SUITE 200 2200 RENAISSANCE BLVD. GULPH MILLS, PA 19406			ELHILO, EISA B	
			ART UNIT	PAPER NUMBER
			1751	

DATE MAILED: 05/31/2005

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/088,247  
Filing Date: July 26, 2002  
Appellant(s): KLEEN ET AL.

\_\_\_\_\_  
Gregory M. Hill  
For Appellant

**EXAMINER'S ANSWER**

**MAILED**  
MAY 31 2005  
**GROUP 1700**

This is in response to the appeal brief filed February 15, 2005.

HL

Art Unit: 1751

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences, which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

No amendment after final has been filed.

**(5) *Summary of claimed subject matter replacing "Summary of Invention"***

The summary of claimed subject matter contained in the brief is correct.

Further, the examiner reviewed the content of summary of invention and determined that the items required for summary of claimed subject matter are presented in the brief except that the title should be replaced by the new title "Summary of claimed subject matter" according to the new Rules of Practice Before the BPAI (effective September 13, 2004).

**(6) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(7) *Prior Art of Record***

<i>US 6,274,364 B1</i>	<i>Bernard et al.</i>	<i>8-2001</i>
<i>US 6,051,033</i>	<i>McDevitt et al.</i>	<i>4-2000</i>

Art Unit: 1751

***(8) Grounds of rejection***

The following ground(s) of rejection are applicable to the appealed claims.

Claims 18, 20-25 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernard et al. (US 6,274,364). This rejection is set forth in the previous office action, mailed on 3/15/2004.

Claims 19, 26-28 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernard et al. (US 6,274,364) in view of McDevitt et al. (US 6,051,033). This rejection is set forth in the previous office action, mailed on 3/15/2004.

Bernard (US' 364 B1) teaches a composition formulated as dyeing or setting lotions for hair (see col. 8, lines 15-21). The composition comprises a colorant, a transglutaminase enzyme (see col. 6, lines 52-60 and col. 8, line 54) and at least one substance having substrate activity for the enzyme such as protein hydrolyzates, amino acid and plant extract (see col. 9, lines 17-22), active substance having substrate activity on the carbonyl group of a glutamine residue and of the amino group of a lysine residue (see col. 6, lines 55-57) and casein (see col. 13, line 30).

Although Bernard et al, (US' 364) teaches a hair dyeing composition comprising colorants, transglutaminase enzymes and substance having substrate activity such as protein hydrolyze and casein, the reference does not require such a treating composition with sufficient specificity to constitute anticipation.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply such a composition to the keratin fibers by using such a method, because such a composition that comprises colorants, transglutaminase enzymes and substance having substrate activity of protein hydrolyze falls within the scope of those taught by Bernard et

Art Unit: 1751

al. Therefore, one of ordinary skill in the art would have had a reasonable expectation of success, because such a composition is expressly suggested by Bernard et al disclosure and therefore is an obvious formulation.

Claims 19, 26-28 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernard et al. (US 6,274,364 B1) in view of McDevitt et al. (US 6,051,033).

The disclosure of Bernard (US' 364 B1) as summarized above, teaches a hair treating composition comprising calcium –dependent transglutaminase enzymes and substance having substrate activity of protein hydrolyze. Bernard et al., does not teach or disclose calcium-independent transglutaminase enzymes as claimed. Bernard et al, also does not teach that the composition can be applied to the hair simultaneously or successively for a limited time after the hair pretreated with a pretreatment of oxidizing agent as claimed.

McDevitt (US' 033) in analogous art of hair treating formulations, teaches a method for treating wool fibers or animal hair comprising applying to the hair an aqueous solution that comprises a proteolytic enzyme and a transglutaminase which includes both calcium-dependent and calcium-independent transglutaminase (see col. 2, lines 24-28 and col. 7, lines 26-30), and, thus, McDevitt et al, clearly teaches the equivalency between calcium –dependent transglutaminase and calcium –independent transglutaminase which are both used in the same utility. It is also taught by McDevitt et al., that the enzymatic treatments can take place either as stand-alone steps or in combination with other treatments wherein the animal hair material is subjected to treatment with a transglutaminase either subsequent to or preferably simultaneously with a proteolytic enzyme treatment and wherein the enzymatic treatment steps are preferably carried out for a duration of at least 1 minute and less than 150 minutes (see col. 5, lines 13-28).

Art Unit: 1751

It is further taught by McDevitt et al., that the animal hair may have undergone an oxidative pre-treatment prior to any of the enzymatic treatment wherein the oxidative pre-treatment includes an oxidizing agent such as sodium hypochlorite as well as enzymatic treatments using oxidoreductase enzymes (see col. 3, lines 7-13). It is furthermore taught by McDevitt et al., that the method provides advantages with regard to improved shrink-resistance, and/or improvements of softness and handle are highly desired by the end-user, while minimizing fiber damage relative to existing degradative treatments of wool and other animal hair materials (see col. 2, lines 15-22).

Therefore, in view of teaching of the secondary reference of McDevitt et al., one having ordinary skill in the art would be motivated to modify the composition of Bernard by replacing the calcium –dependent transglutaminase with the calcium –independent transglutaminase as taught by McDevitt and to utilize such a method to apply to the hair the enzymatic composition simultaneously or successively for limited time with a pretreatment of oxidative step. Such modification would be obvious because one would expect that the use of calcium –independent transglutaminase simultaneously or successively for limited time as taught by McDevitt would similarly useful and applicable to the analogous treating composition taught by the primary reference of Bernard et al.

**(9) *Response to Argument***

The examiner has reviewed Appellant's arguments and respectfully disagrees with counsel's allegations. Specifically, appellants argue that Bernard et al. (US' 364 B1) discloses treatments for skin and there is no disclosure of formations or methods for treatment of hair. Appellants also argue that the disclosure of McDevitt et al. (US' 033) is not directed specifically

Art Unit: 1751

to the treatment of hair. It relates to methods for treating wool fibers for the purpose of improving shrink resistance, handling, softness and other characteristics that specifically relate to wool products. Thus, the appellants conclude that there is no motivation from these references to combine them in such a manner to have resulted in appellant's claimed invention.

The examiner position is such that the arguments are not found persuasive because of the following reasons.

In establishing a *prima facie* case of obviousness, three criteria must be met. See *in re Vaeck*, 947 F.2d 488, 20 USPQ 2d 1438 (Fed. Cir. 1991). First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. (see MPEP 2143).

In response to appellant's argument that there is no motivation to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case the three criteria have been met, because all references are in the same analogous art of keratin fibers treating formulation.

Art Unit: 1751

Bernard (US' 364 B1) teaches a composition formulated as a hair (keratin fibers) dyeing (especially oxidation dyeing) or setting lotions (see col. 8, lines 15-21). The composition comprises colorants (see col. 8, line 54), transglutaminase enzymes with a protease activator (see col. 6, lines 52-60) and substances having substrate activities for the enzyme such as protein hydrolyzates, amino acid and plant extract (see col. 9, lines 17-22). Therefore, there is a sufficient motivation to one having ordinary skill in the art to be motivated to incorporate the colorants and the transglutaminase enzymes with the enzyme activators in a composition utilized for treating or dyeing hair.

McDevitt et al. (US' 033) in analogous art of keratin fibers formulation, teaches a method for treating wool, wool fibers or animal hair with a proteolytic enzyme and a transglutaminase and wherein the method results in improved dyeing characteristics of hair (see abstract). Therefore, there is a clear and sufficient motivation to combine the teachings of references with a reasonable expectation of success for improving the dyeing characteristic of hair by reducing the fibers damage and improving the hair strength.

Accordingly, the Office maintains that the Examiner has met the burden to establish the prima facie showing of obviousness. Viewed as a whole, the invention as claimed would have been obvious to one of ordinary skill in the art at the time of the invention.

Finally, the Examiner request that this Board when viewing the evidence as a whole, and lacking any secondary indicia of nonobviousness, affirm the decision of the Examiner in whole.

For the above reasons, it is believed that the rejections should be sustained.

Art Unit: 1751

Respectfully submitted,



Eisa Elhilo  
May 24, 2005

Conferees  
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